

REMARKS / ARGUMENTS

Upon entry of the present amendments, claims 1-25 are pending in the application. Claims 1-7, 9-10, 12-17, 19-25, and 22-25 are currently amended. Support for these claim amendments appears at least in claims 1-25 as originally filed as well as in the specification as originally filed at least at page 13, ¶ 37 through page 18, ¶ 45. The Applicants have amended the specification to provide serial numbers of related applications which were referenced in the specification as filed but were not available to the Applicants at that time. That is, the specification has been corrected by inserting the serial number of the co-pending applications referred to in ¶¶ 3, 4, 5, 6, 73, 86, 95 and 98. The foregoing amendments were made without any intention to abandon any subject matter, but with the intention that one or more claims of the same, lesser, or greater scope may be pursued in a later application or in a continuation, continuation-in-part, or divisional application. The present amendment does not add new matter.

Claim Rejections-35 U.S.C. §112, second paragraph—Indefiniteness

The Examiner rejected claims 1-25 pursuant to 35 U.S.C. § 112, second paragraph as indefinite as detailed below.

Point A. The Examiner rejected claims 1-8, 11-18 and 21-25 pursuant to 35 U.S.C. § 112, second paragraph as indefinite. Claims 1-8, 11-18 and 21-25, as originally filed, recited an imaging member that can comprise only one "layer". The Examiner stated that "by definition, a layer is a thickness of some material laid over or spread upon a surface. Consequently, an underlying support or substrate should also be recited". (Office Action, page 2, point A).

The Applicants traverse the rejection under 35 U.S.C. § 112, second paragraph because the claims 1-8, 11-18 and 21-25 as amended moot the Examiner's rejections pursuant to 35 U.S.C. § 112, second paragraph. Specifically, in response to this rejection, claim 1 (from which claims 2-12 depend, and to which claims 13-25 refer) has been amended to recite "a substrate bearing at least one or more color-forming layers". Thus, the scope of the claim is now considered to be clearly defined, since the amended claim recites a substrate, consistent with the Examiners suggestion. (Office Action, page 2, Point A). Accordingly, the Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 112, second paragraph rejections of claims 1-8, 11-18 and 21-25 as indefinite.

Point B. The Examiner rejected claims 1-4, 12-14 and 22-25 pursuant to 35 U.S.C. § 112, second paragraph as indefinite. Claims 1-4, 12-14 and 22-25, as originally filed, recited a "first" color-forming layer without reciting a "second" color-forming layer. The Applicants traverse the rejection under 35 U.S.C. § 112, second paragraph because the claims 1-4, 12-14 and 22-25 as amended moot the Examiner's rejections pursuant to 35 U.S.C. § 112, second paragraph. Specifically, in response to this rejection, the recital of a "first" color-forming layer in claim 1 (from which claims 2-12 depend, and to which claims 13-25 refer) been removed and the language has been amended. Claims 7 and 17, as currently amended, now recite a "first" and a "second" color-forming layer. Accordingly, the Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 112, second paragraph rejections of claims 1-4, 12-14 and 22-25 as indefinite.

Point C. The Examiner rejected claims 1-6, 8-16 and 18-25 pursuant to 35 U.S.C. § 112, second paragraph as indefinite. Claims 1-6, 8-16 and 18-25 as originally filed recited a "first" chemical compound without reciting a "second" chemical compound. The Applicants traverse the rejection under 35 U.S.C. § 112, second paragraph because the claims 1-6, 8-16 and 18-25 as amended moot the Examiner's rejections pursuant to 35 U.S.C. § 112, second paragraph. Specifically, in response to this rejection, the recital of a "first" chemical compound in claim 1 (from which claims 2-12 depend, and to which claims 13-25 refer) been removed and the language has been amended. Claims 7 and 17, as currently amended, now recite a "first" and a "second" chemical compound. Accordingly, the Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 112, second paragraph rejections of claims 1-6, 8-16 and 18-25 as indefinite.

Claim Rejections - 35 U.S.C. § 102—Anticipation

The Examiner rejected claims 1, 13, 21 and 22 under 35 U.S.C. § 102(b) as allegedly anticipated by any of the patents U.S. Pat. No. 5,663,115 (Naito I), U.S. Pat. No. 6,010,808 (Naito II), EP 0 576 015 (Tsutsui *et al.*) and EP 1 234 681 (Suzuki *et al.*). The Examiner appears to reason that these patents anticipate the subject matter described in the above-referenced claims as U.S. Pat. No. 5,663,115 (Naito I), U.S. Pat. No. 6,010,808 (Naito II), EP 0 576 015 (Tsutsui *et al.*) and EP 1 234 681 (Suzuki *et al.*) all allegedly "teach color imaging members comprising a substrate having a color-forming-layer which employs a chemical compound which can be converted into a liquid amorphous form upon the application of heat. The aforementioned crystalline and amorphous forms have intrinsically different

colors." (Office action, page 2, lines 16-19). The Examiner generally directs the Applicants to the citations provided in International Search Report for PCT/US2004/005986 for recitation of the "pertinent portions" of the cited art without clarification or further direction. The Applicants traverse the rejections under 35 U.S.C. § 102(b) because not every element of the claimed invention as defined in claim 1, 13, 21 and 22 are disclosed either specifically or inherently in U.S. Pat. No. 5,663,115 (Naito I), U.S. Pat. No. 6,010,808 (Naito II), EP 0 576 015 (Tsutsui *et al.*) or EP 1 234 681 (Suzuki *et al.*) as detailed below.

Claim 1 of the instant application, as amended, is directed to a color imaging member comprising a substrate bearing one or more color-forming layers, where at least one of the color-forming layers comprises a chemical compound in a crystalline form, the crystalline form being capable of being converted to an amorphous form, the chemical compound having intrinsically a different color in the crystalline form than in the amorphous form. Claim 13, as amended, is directed to a color imaging method comprising using the imaging member of claim 1 to form an image by converting at least a portion of the chemical compound to an amorphous form in an imagewise pattern. Claim 21 and claim 22, which depend from claim 13, recited provide that the color-forming layer(s) are initially colorless. FIG. 1 of the instant application, as filed, shows two embodiments of the invention, designated "Type I" and "Type II". As shown in FIG. 1, and described on p. 14, line 3 through p. 15, line 11 (for Type I) and p. 27, line 23 through p. 28, line 28 (for Type II), the equilibrating mixture of materials on both sides of the equation that is present in the amorphous form has one color, while the crystalline form that consists only of the compound on the left hand side of the equation has another color. A color change is achieved by converting the crystalline form to the amorphous form. The color change does not arise from interaction of the chemical compound with any other material. Indeed, the term "intrinsic" is defined in the Compact Oxford English Dictionary as "belonging to the basic nature of someone or something; essential". In the present application, its usage is illustrated on p. 46, lines 13-16, describing an example of the practice of the invention, where it is stated "no developers or other chemical adjuvants were present. Therefore, the color formed must have arisen through intrinsic color change of these materials." The intrinsic nature of the color change to the chemical compound that is initially in the crystalline form distinguishes the present invention from the prior art cited by the Examiner.

U.S. Pat. No. 5,663,115 (Naito I), U.S. Pat. No. 6,010,808 (Naito II), EP 0 576 015 (Tsutsui *et al.*) and EP 1 234 681 (Suzuki *et al.*) do not teach or suggest a chemical compound that has intrinsically a different color in the crystalline than in the amorphous form. The images formed by the color-formers mentioned in the cited references arise from the interaction of the color-former with a developer, as is specifically mentioned as being a prior art method by the Applicants on p. 6, line 29 through p. 8, line 18 of the present application. More specifically, U.S. Pat. No. 5,663,115 (Naito I) in column 2, lines 43-49, U.S. Pat. No. 6,010,808 (Naito II) in column 4, lines 12-19, EP 0 576 015 (Tsutsui *et al.*) on page 5, lines 8-16 and EP 1 234 681 (Suzuki *et al.*) on page 9, lines 7 - 26 specify that color formation occurs through the interaction of more than one chemical compound. The examples given elsewhere in these references illustrate a leuco dye and a developer.

The Applicants traverse the rejections under 35 U.S.C. § 102(b) because not every element of the claimed invention as defined in claim 1, 13, 21 and 22 are disclosed either specifically or inherently in U.S. Pat. No. 5,663,115 (Naito I), U.S. Pat. No. 6,010,808 (Naito II), EP 0 576 015 (Tsutsui *et al.*) or EP 1 234 681 (Suzuki *et al.*). Specifically, none of these references teach or suggest a chemical compound that has intrinsically a different color in the crystalline than in the amorphous form. Accordingly, the Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 102(b) rejections of claims 1, 13, 21 and 22.

Claim Rejections 35 U.S.C § 103—Obviousness

The Examiner rejected claims 1, 13, 21, and 22 under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Pat. No. 5,663,115 (Naito I), U.S. Pat. No. 6,010,808 (Naito II), EP 0 576 015 (Tsutsui *et al.*) and EP 1 234 681 (Suzuki *et al.*). The Examiner appears to reason that these patents in some unspecified combination and without recitation or analysis of the relevant factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), renders obvious the subject matter of the above-referenced claims as “[T]he experimental modification of this prior art in order to ascertain optimum operating conditions (e.g., determine melting points and color-forming layer locations) fails to render applicants' claims patentable in the absence of unexpected results.” The Examiner generally directs the Applicants to the citations provided in International Search Report for PCT/US2004/005986 for recitation of the “pertinent portions” of the cited art without clarification or further direction. The Applicants traverse the rejections of claims 1, 13, 21,

and 22 under 35 U.S.C. § 103(a) because none of U.S. Pat. No. 5,663,115 (Naito I), U.S. Pat. No. 6,010,808 (Naito II), EP 0 576 015 (Tsutsui *et al.*) or EP 1 234 681 (Suzuki *et al.*) teach or suggest a chemical compound that has intrinsically a different color in the crystalline than in the amorphous form.

As noted above, claim 1 of the instant application, as amended, is directed to a color imaging member comprising a substrate bearing one or more color-forming layers, where at least one of the color-forming layers comprises a chemical compound in a crystalline form, the crystalline form being capable of being converted to an amorphous form, the chemical compound having intrinsically a different color in the crystalline form than in the amorphous form. Claim 13, as amended, is directed to a color imaging method comprising using the imaging member of claim 1 to form an image by converting at least a portion of the chemical compound to an amorphous form in an imagewise pattern. Claim 21 and claim 22, which depend from claim 13, recited provide that the color-forming layer(s) are initially colorless. All the prior art reference specify that color formation occurs through the interaction of more than one chemical compound. As such, the combination of one or more of the above-referenced prior art references fails to cure the fundamental deficiency of each individual reference with regard to a failure to teach an invention wherein a chemical compound has intrinsically a different color in the crystalline than in the amorphous form and requires no interaction with another chemical compound to facilitate a color change. The Applicants, therefore, traverse the rejection of claims 1, 13, 21, and 22 under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Pat. No. 5,663,115 (Naito I), U.S. Pat. No. 6,010,808 (Naito II), EP 0 576 015 (Tsutsui *et al.*) or EP 1 234 681 (Suzuki *et al.*) in any combination and respectfully request reconsideration and withdrawal of this rejection.

Claim Rejections for Nonstatutory Obviousness-type Double Patenting

The Examiner has rejected pending claims 1-25 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S.S.N. 10/788,963 (now U.S. Patent No. 7,008,759; issued March 7, 2006); claims 1-15 of co-pending application U.S.S.N. 10/789,566; or claims 1-16 of copending application U.S.S.N. 10/789,600. The Examiner reasons that while "the conflicting claims are not identical, they are not patentably distinct from each other because the applications teach examples of the chemical compounds generically taught by the present application." (Office Action, page 3,

lines 28-31. The Applicants respectfully requests reconsideration and withdrawal of the nonstatutory double patenting rejection of claims 1-25 in the instant case as the Applicant timely files herewith a terminal disclaimer in compliance with 37 C.F.R. § 1.321(c). The Applicants declare that Zink Imaging, LLC ("Zink") owns all right, title and interest in U.S.S.N. 10/788,963 (now U.S. Patent No. 7,008,759; issued March 7, 2006); U.S.S.N. 10/789,566; U.S.S.N. 10/789,600 and the instant application (U.S.S.N. 10/789,648).

Zink's common ownership of the above-referenced patent and patent applications is evidenced as follows:

Transfer of title from the inventors to Polaroid Corporation is of record with the U.S. Patent and Trademark Office as evidenced by assignment documents recorded at reel/frame 15032/0570 (US Pat. No. 7,008,759; recorded 2/27/2004); 15039/0331 (U.S.S.N. 10/789,566; recorded 2/27/2004); 15040/0190 (U.S.S.N. 10/789,600; recorded 2/27/2004); 15040/0221 (U.S.S.N. 10/789,648 (instant application); recorded 2/27/2004). Subsequent transfer title from Polaroid Corporation to Zink is evidenced by the Patent and Invention Assignment dated as of January 5, 2006 (a copy of which is enclosed with the Terminal Disclaimer filed herewith) which has been made of record with the US Patent and Trademark Office in each of U.S.S.N. 10/788,963 (now U.S. Patent No. 7,008,759; issued March 7, 2006); U.S.S.N. 10/789,566; U.S.S.N. 10/789,600 and the instant application (U.S.S.N. 10/789,648) by electronic filing of a Request for Recordation of Assignment with the Assignment Branch made concurrent with the present Response.

Appl. No.: 10/789,648
Amendment/Response to Feb. 21, 2006 Office Action

Express Mail No.: EV 66911406 US
Deposited: June 21, 2006

CONCLUSION

On the basis of the foregoing amendments, Applicants respectfully submits that the pending claims are in condition for allowance and respectfully request the same. If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,

Dated: June 21, 2006



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